The Monitor

The Newsletter of the ETV Advanced Monitoring Systems (AMS) Center

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ETV major catalyst

EPA To Help With India's Environmental Problems

U.S. EPA Administrator Christine Todd Whitman signed an agreement to increase environmental cooperation between the U.S. and India on air and water quality management during a visit to that nation in January.

The memorandum of understanding (MOU) pledges the U.S. EPA's support in managing toxic chemicals and hazardous wastes, developing environmental risk assessments, and implementing environmental agreements.

Speaking at an interactive meeting sponsored by the Federation of the Indian Chamber of Commerce and Industry (FICCI), Administrator Whitman said that EPA will share information on environmental issues, hold seminars in India to create environmental awareness and work to improve air quality.

FICCI President R.S. Lodha said that environmental technology verification services could be a major catalyst in bridging the technology gaps because it gives confidence to industries considering using these technologies and provides a "higher comfort level" for the Indian governmental agencies that may provide funding.

Battelle laboratory technician A.J. Savage collected samples in fresh water, well water, and public drinking water, then analyzed samples at the sites and in the lab.

AMS Center's Arsenic Testing Fits Current EPA Priority

The Advanced Monitoring Systems Center (AMS), one of six centers in the U.S. EPA's Environmental Technology Verification Program (ETV), recently completed the verification test of four portable arsenic water analyzers that can monitor for arsenic in the 1 to 100 parts per billion (ppb) range.

Tests were conducted in fresh water, well water, and public drinking water during October and early November in three central Ohio counties. The four companies participating in the test and the instruments tested were:

- Envitop Ltd. As-Top HE Arsenic Test Kit
- PETERS Engineering, AS 75, Arsenic Test Kit
- TraceDetect, Nano-Band™ Arsenic Test Kit
- Industrial Test Systems, Inc., Quick™ Test Kit..

The technology verification test was quite timely, given the EPA's final announcement in October that the new federal standard for arsenic in drinking water will be 10 ppb by 2006. The 10 ppb standard is required by the Safe Drinking Water Act. The previous maximum acceptable level of 50 ppb had been in effect for nearly half a century. Christine Todd Whitman, U.S. EPA administrator, said in the October announcement that "this standard will improve the safety of drinking water for millions of Americans and better protect against the risk of cancer, heart disease, and diabetes."

The U.S. EPA estimates that approximately 4,000 drinking water systems of the 74,000 regulated by the new standard will have to install treatment devices or

(See Testing on page 2)

The AMS Center is part of the U.S. Environmental Protection Agency's Environmental Technology Verification Program. ETV was established to accelerate the development and commercialization of improved environmental technologies through third-party verification testing and reporting of the technologies' performance. The ETV process provides purchasers and permitters with an independent assessment of the technology they are buying or permitting and facilitates multi-state acceptance. For further information, contact Helen Latham at Battelle, 505 King Ave., Columbus, Ohio 43201-2693; Phone 614-424-4062; Fax 614-424-5601; E-mail lathamh@battelle.org.

Testing *(from page 1)*

take other steps to comply. Water systems will be required to meet the standard by January 2006. Nearly 97 percent of the water systems affected by the new rule are small systems serving fewer than 10,000 people each. The agency estimates it will provide up to $20 million over the next two years for research and development for more cost-effective technologies, to help small water systems meet the new standard.

Many other federal and international agencies and organizations support the new standard. For example, the World Health Organization (WHO) is also seeking arsenic detection devices for use in countries such as India and Bangladesh, where 70 million people are in danger from poisoning from arsenic in drinking water. The organization is seeking rapid, easy to operate devices capable of detecting arsenic at 10-ppb.

For more than a year, in anticipation of the new EPA standard for arsenic, members of the AMS Center's water stakeholder committee have placed a high priority on conducting verification tests for portable water analyzers or test kits that can monitor for arsenic in drinking water. The AMS Center is planning to conduct additional tests for arsenic monitors and a test focused on devices that can determine arsenic speciation as well. Vendors with arsenic monitoring technologies are invited to contact Battelle for further information about future verification tests (Adam Abbgy, phone: 614-424-5484, e-mail: abbgya@battelle.org).

Following is a summary of ongoing and planned verification test opportunities:

Ammonia (NH) CEMs. A verification test is being planned for technologies that detect ammonia "slip" emissions. Ammonia "slip" refers to the amount of unreacted ammonia that may bypass a NO_x reduction catalyst and escape into the atmosphere. Ten NH_3 CEM vendors are expected to attend an EPA Region 1 meeting on January 30 in Boston to discuss ammonia slip monitoring technology needs, and verification testing. Contact: Ken Cowen, 614-424-5547 or cowenk@battelle.org.

Why Arsenic?

The U.S. EPA defines arsenic as a chemical that occurs naturally in the earth's crust. When rocks, minerals, and soil erode, they release arsenic into water supplies. People are exposed to arsenic by drinking this water or eating plants and animals that have ingested it. Arsenic can also come from industrial sources. Studies have linked long-term exposure to arsenic in drinking water to a variety of cancers in humans.

Mercury CEMs. Phase 2 of this verification test is to begin this spring at a full-scale hazardous waste incinerator. Mercury CEMs vendors have been invited to submit technologies for the test to be conducted by the U.S. Department of Energy at its TSCA incinerator at Oak Ridge, TN. A test plan has been drafted and a notice of the proposed test has been sent to CEM vendors. Contact: Tom Kelly, 614-424-3495 or kellyt@battelle.org.

Multi-metals CEMs. A verification test of an X-ray-based continuous emission monitor for metals (XCEM), was conducted last May in collaboration with the U.S. Army's Construction Engineering Research Laboratory at its demilitarization incinerator at the Tooele (UT) Army Depot.

This test evaluated the instrument's performance in determining multi-metal concentrations in combustion source emissions. The draft verification report and statement have been sent to the vendor and EPA representatives for review. Contact Tom Kelly (see above).

Multi-parameter water probes. Four vendors are expected to participate in this test, which is to start this spring in the Charleston, SC, area. The AMS Center is collaborating on the test with the National Oceanic and Atmospheric Administration's (NOAA) Center for Coastal Environmental Health and Biomolecular Research (CCEHBR) in Charleston, which offers freshwater, salt water, and a controlled site for testing. Contact: Jeff Myers, 614-424-7705 or myersjd@battelle.org.

Portable arsenic water analyzers. Please see the article beginning on page 1. The draft verification reports and statements are being prepared for review by the participating vendors and EPA representatives. Contact Adam Abbgy, 614-424-5484 or abbgya@battelle.org.

Portable emission analyzers. Several vendors have expressed interest in submitting technologies for this test, which will measure the instruments' capabilities to detect NO/NO_2, SO_2, CO, and oxygen (O_2) in combustion emissions. The test plan was completed in January and submitted technologies will be verified one at a time. Contact: Tom Kelly (see above).

Upcoming Events

March

17-22 PITTCON 2002 Conference, New Orleans, LA

April

25-26 AMS Center's air stakeholder committee meeting, Pine Mountain, GA

May

7-9 14th Annual Enviro-Expo Conference, Boston, MA

TBD AMS Center's water stakeholder committee meeting

20-23 Water Quality Monitoring 2002 Conference: Building a Framework for the Future, Madison, WI